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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,137	09/09/2004	Britta Scheller	B-7209	2062

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EXAMINER	
VAN, LUAN V	
ART UNIT	PAPER NUMBER
1753	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/507,137	SCHELLER ET AL.	
	Examiner	Art Unit	
	Luan V. Van	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *June 27, 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: sections entitled Background of the Invention, Summary of the Invention, Brief Description of the Drawings, and Description of the Invention should be included in the specification. Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Morin (US patent 4680100).

Regarding claim 1, Morin teaches a device for treating a planar work piece 32 with a fluid, i. comprising at least one protective carrier 36 (Fig. 7) for holding the work pieces, said protective carrier being adapted to be received, for treatment, by a tank 52

(Fig. 10) containing the fluid; and ii. at least one means that permits the fluid to flow into the protective carrier in such a manner that the work pieces will not substantially deform and/or shift position, after the work pieces have been received in the protective carrier.

Regarding claim 2, Morin teaches wherein the fluid is an electrochemical processing fluid.

Regarding claim 3, Morin teaches wherein the means for admitting the processing fluid in the protective carrier comprises at least one aperture (holes through a screen 36 in Fig. 7) in the protective carrier.

Regarding claim 4, Morin teaches wherein the protective carrier comprises side walls and a bottom wall, the apertures being evenly spaced apart and distributed over the side and/or bottom walls (Fig. 7).

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Brodsky et al. (US patent 6190530).

Regarding claim 10, Brodsky et al. teach a device, i. comprising at least one protective carrier 20 (Fig. 1) for holding the work pieces 19, said protective carrier being adapted to be received, for treatment, by a tank 12 (Fig. 1) containing the fluid; and ii. at least one means that permits the fluid to flow into the protective carrier in such a manner that the work pieces will not substantially deform and/or shift position, after the work pieces have been received in the protective carrier.

The apparatus of Brodsky et al. is structurally capable of treating a flat and flexible work piece, thus the apparatus of Brodsky et al. anticipates the instant claims.

Regarding claim 2, Brodsky et al. teach wherein the fluid is an electrochemical processing fluid.

Regarding claim 3, Brodsky et al. teach wherein the means for admitting the processing fluid in the protective carrier comprises at least one aperture (holes 22 Fig. 1) in the protective carrier.

Regarding claim 4, Brodsky et al. teach wherein the protective carrier comprises side walls and a bottom wall, the apertures being evenly spaced apart and distributed over the side and/or bottom walls (Fig. 1).

Claims 14, 15, 22 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morin.

Regarding claim 14, Morin teaches a method of treating planar work piece 30 with a fluid 128 in a tank 52 (Fig. 10) comprising the following method steps: i. receiving the work pieces in a screen 36 (Fig. 7), i.e. protective carrier; ii. disposing the protective carrier in the tank; then iii. filling the protective carrier with the fluid (the fluid enters the screen or protective carrier when it is being submerged in the solution, or when the solution is being introduced in the tank); and next iv. treating the work pieces with the fluid.

Morin is silent to whether the work pieces will substantially deform and/or shift position. However, Morin teaches that the electrode is being held by inert support 34 and by screen 36 (column 7 lines 26-31), and that it is being protected from damage by screen 36 (column 7 lines 58-61). It would have been obvious to one having ordinary

skill in the art to have expected that the workpiece of Morin would not substantially deform or should position, because it is being held by inert support 34 and screen 36.

Regarding claim 15, Morin teaches wherein the fluid is an electrochemical processing fluid.

Regarding claim 22, Morin teaches wherein the protective carrier comprises side walls and a bottom wall, the apertures being evenly spaced apart and distributed over the side and/or bottom walls (Fig. 7).

Regarding claim 24, Morin teaches the processing fluid is allowed to flow through the apertures of the screen in two sidewalls (front and back) of the screen only, since the sides are being blocked by the chamber wall.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Forand (US patent 5938899).

Morin teaches the apparatus as described above. Morin differs from the instant claims in that the reference does not explicitly teach the specific size of the aperture.

Forand teaches an anode containment basket, i.e. protective carrier, for holding soluble anodes within a plating bath of a continuous electroplating line, wherein the holes of the basket have the diameter of 1/4", or an area of 127 mm^2, which is within the range of the instant claim.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Morin by using the aperture size of Forand, because it would minimize the amount of stray cross currents, and thereby

direct more electrical energy between the electrodes in the basket and outside of the basket (column 3 lines 50-55 of Forand).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Forand, and further in view of Ewell (US patent 1374370).

Morin and Forand teach the apparatus as described above. Morin differs from the instant claims in that the reference does not explicitly teach an orifice plate.

Ewell teaches an orifice plate wherein a series of perforations are alternately shifted into and out of registration by reciprocation of said orifice plate, thus providing for an intermittent escape of liquid (column 3 lines 43-56)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Morin and Forand by using the orifice plate of Ewell, because it would allow the flow rate of the liquid to be controlled.

Claims 7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Uzoh et al. (US publication 2001/0050233).

Morin teaches the apparatus as described above. Morin differs from the instant claims in that the reference does not explicitly teach that the aperture diameters are smaller in the border regions.

Uzoh et al. teach an electrodeposition/electro-etching system wherein baffle plates having smaller aperture diameters in the border regions (Figs. 2-5) are used to promote uniformity of deposition or etching.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Morin by using the baffle of Uzoh et al. wherein the aperture diameters are smaller in the border regions, because it would promote uniformity of deposition or etching.

Claims 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Marek (US patent 2365202).

Morin teaches the apparatus and method as described above. Morin differs from the instant claims in that the reference does not explicitly teach a drain gate.

Marek teaches a tank having drain gates 16 (Fig. 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus and method of Morin by using the drain gate of Marek, because it would facilitate removal of liquid in a processing tank.

Claims 9, 10, 16-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Le Bras et al. (US patent 3784460).

Morin teaches the apparatus and method as described above. Morin differs from the instant claims in that the reference does not explicitly teach a reservoir and delivery system (claims 9, 10 and 21), or conveying the protective carrier (claims 17 and 18) for creating a difference in the levels of the processing fluid.

Le Bras et al. teach an electrodepositing apparatus including a reservoir tank 13 (Fig. 3) and a delivery system via valve 15 and line 17. In addition, Le Bras et al. teach conveyor 37 for conveying a workpiece into the electrolytic bath.

Addressing claims 9, 10, 16 and 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Morin by using the reservoir and delivery system of Le Bras et al., because they would help purge ions, contaminants and impurities from the system without substantially removing the desired constituents (column 2 lines 40-44 of Le Bras et al.). The system of Le Bras et al. would inherently create a difference in the levels of the processing fluid when the protective carrier of Morin is submerged in a plating tank with the conveyor of Le Bras et al., because the protective carrier of Morin would impede the flow of the fluid.

Addressing claims 17 and 18, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Morin by conveying the workpiece and protective carrier into the tank as taught by Le Bras et al., because conveying the workpiece into the tank would speed up the processing of multiple workpieces.

Claims 11, 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Le Bras et al., and further in view of Friedman (US patent 2461113).

Morin and Le Bras et al. teach the apparatus and method as described above. Morin differs from the instant claims in that the reference does not explicitly teach a hoist.

Friedman teaches a hoist for vertically moving a workpiece into or out of an electroplating tank (Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus and method of Morin and Le Bras et al. by using the hoist of Friedman, because it would allow a workpiece to be submerged vertically into the solution without swaying the workpiece.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of number Le Bras et al., Friedman, and further in view of Marek.

Morin, Le Bras et al. and Friedman teach the apparatus as described above. Morin differs from the instant claims in that the reference does not explicitly teach a drain baffle.

Marek teaches a tank having drain gates 16 (Fig. 2). The drain gates of Le Bras et al. are broadly interpreted to read on the baffles of the instant claim.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Morin, Le Bras et al., and Friedman by using the drain gate of Marek, because it would facilitate removal of liquid in a processing tank.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin in view of Ewell (US patent 1374370).

Morin and Forand teach the method as described above. Morin differs from the instant claims in that the reference does not explicitly teach an orifice plate.

Ewell teaches an orifice plate wherein a series of perforations are alternately shifted into and out of registration by reciprocation of said orifice plate, thus providing for an intermittent escape of liquid (column 3 lines 43-56)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Morin by using the orifice plate of Ewell, because it would allow the flow rate of the liquid to be controlled.

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The following patents are hereby made of record: 1792998, 4059493, 2431949 and 3607712.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LVV
April 13, 2007

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